

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. 2003-NM-141-AD; Amendment 39-13262; AD 2003-16-09]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Learjet Model 45 Airplanes**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule; request for comments.

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**SUMMARY:** This amendment adopts a new airworthiness directive (AD) that is applicable to certain Learjet Model 45 airplanes. This action incorporates a reduced life-limit replacement interval for certain shear pins in the trunnion assemblies of the main landing gears (MLG) into the airworthiness limitations section of the Instructions for Continued Airworthiness, and requires replacement of those certain shear pins with new, improved shear pins. This action is necessary to prevent failure of the shear pins in the trunnion assemblies of the MLGs, which could result in the collapse of a MLG, and consequent reduced controllability of the airplane during takeoff or landing. This action is intended to address the identified unsafe condition.

**DATES:** Effective August 27, 2003.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of August 27, 2003.

Comments for inclusion in the Rules Docket must be received on or before October 14, 2003.

**ADDRESSES:** Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 2003-NM-141-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays. Comments may be submitted via fax to (425) 227-1232. Comments may also be sent via the Internet using the following address: 9-anm-iarcomment@faa.gov. Comments sent via the Internet must contain "Docket No. 2003-NM-141-AD" in the subject line and need not be submitted in triplicate. Comments sent via fax or the Internet as attached electronic files must be formatted in Microsoft Word 97 or 2000 or ASCII text.

The service information referenced in this AD may be obtained from Learjet, Inc., One Learjet Way, Wichita, Kansas 67209-2942. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; at the FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, Kansas; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Greg Davied, Aerospace Engineer, Airframe and Propulsion Branch, ACE-118W, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, Kansas 67209; telephone (316) 946-4128; fax (316) 946-4107.

**SUPPLEMENTARY INFORMATION:** The airplane manufacturer notified the FAA that results of fatigue testing conducted on the main landing gears (MLG) of Learjet Model 45 airplanes indicate that certain shear pins in the trunnion assemblies of the MLGs do not meet their expected life limit of 20,000 total landings. The shear pins in the trunnion assemblies are made of a material that allows hydrogen to penetrate the surface of the material, causing the material to become brittle. Under impact or dynamic loading such as landing, the brittle material could fracture or shatter causing the shear pin(s) to fail before reaching the expected life limit. This type of hydrogen penetration usually occurs during the manufacturing process.

The results of fatigue testing also indicate that the shear pin bushings in the trunnion fitting housings had migrated outward from the fitting, which further weakened the shear pins and contributed to their premature failure.

This condition, if not corrected, could result in the collapse of a MLG, and consequent reduced controllability of the airplane during takeoff or landing.

### **Explanation of Relevant Service Information**

The FAA has reviewed and approved Bombardier Service Bulletin 45-57-6, dated June 9, 2003, which describes procedures for replacing certain shear pins in the trunnion assemblies of the MLGs with new, improved shear pins. This replacement also includes reidentifying the trunnion assemblies. The new, improved shear pins have a maximum life limit of 1,800 total landings.

In addition, we have reviewed Revision 32 of Chapter 4-11-00, dated June 13, 2003, of the Learjet 45 Maintenance Manual. Page 2 of Chapter 4-11-00 specifies a maximum life limit of 1,800 landings for the shear pins in the trunnion assemblies of the MLGs.

Accomplishment of the actions specified in the service bulletin and Learjet 45 Maintenance Manual is intended to adequately address the identified unsafe condition.

### **Explanation of the Requirements of the Rule**

Since an unsafe condition has been identified that is likely to exist or develop on other airplanes of the same type design registered in the United States, this AD incorporates a reduced replacement interval for certain shear pins in the trunnion assemblies of the MLGs into the airworthiness limitations section of the Instructions for Continued Airworthiness, and requires replacement of those certain shear pins with new, improved shear pins. The actions are required to be accomplished in accordance with the service bulletin and Learjet 45 Maintenance Manual described previously, except as discussed below.

## **Differences Between This AD and the Service Bulletin**

Operators should note that this AD is applicable to Learjet Model 45 airplanes, serial numbers (S/N) 45-005 through 45-208 inclusive, 45-210 through 45-222 inclusive, 45-224, 45-225, 45-227, and 45-229 through 45-231 inclusive. The effectivity of Bombardier Service Bulletin 45-57-6 lists Model 45 airplanes, S/N 45-005 through 45-222 inclusive, 45-224, 45-225, and 45-229 through 45-232 inclusive. Since that service bulletin was issued, the manufacturer has determined that the affected airplanes listed in that service bulletin are incorrect and has advised us that it will revise Service Bulletin 45-57-6 to apply to the correct airplanes subject to the unsafe condition described previously. We agree with the manufacturer's determination and have made this AD applicable to those correctly identified airplanes.

Operators should also note that, although the Accomplishment Instructions of the service bulletin describe procedures for reporting compliance with the service bulletin to the airplane manufacturer, this AD does not include such a requirement.

## **Changes to 14 CFR Part 39/Effect on the AD**

On July 10, 2002, the FAA issued a new version of 14 CFR part 39 (67 FR 47997, July 22, 2002), which governs the FAA's airworthiness directives system. The regulation now includes material that relates to altered products, special flight permits, and alternative methods of compliance (AMOCs). Because we have now included this material in part 39, only the office authorized to approve AMOCs is identified in each individual AD. However, Note 1 of this AD has been included to address material that relates to altered products.

## **Determination of Rule's Effective Date**

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

## **Comments Invited**

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified under the caption ADDRESSES. All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Submit comments using the following format:

- Organize comments issue-by-issue. For example, discuss a request to change the compliance time and a request to change the service bulletin reference as two separate issues.
- For each issue, state what specific change to the AD is being requested.
- Include justification (e.g., reasons or data) for each request.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 2003-NM-141-AD." The postcard will be date stamped and returned to the commenter.

## **Regulatory Impact**

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. Section 39.13 is amended by adding the following new airworthiness directive:

# AIRWORTHINESS DIRECTIVE

Aircraft Certification Service  
Washington, DC



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

*We post ADs on the internet at "[www.faa.gov](http://www.faa.gov)"*

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**2003-16-09 Learjet:** Amendment 39-13262. Docket 2003-NM-141-AD.

**Applicability:** Model 45 airplanes, serial numbers 45-005 through 45-208 inclusive, 45-210 through 45-222 inclusive, 45-224, 45-225, 45-227, and 45-229 through 45-231 inclusive; certificated in any category.

**Compliance:** Required as indicated, unless accomplished previously.

To prevent failure of the shear pins in the trunnion assemblies of the main landing gears (MLG), which could result in the collapse of a MLG, and consequent reduced controllability of the airplane during takeoff or landing; accomplish the following:

**Note 1:** This AD requires revisions to certain operator maintenance documents to include new replacements. Compliance with these replacements is required by 14 CFR 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by these replacements, the operator may not be able to accomplish the replacements described in the revisions. In this situation, to comply with 14 CFR 91.403(c), the operator must request approval for an alternative method of compliance in accordance with paragraph (e) of this AD. The request should include a description of changes to the required replacements that will ensure the continued damage tolerance of the affected structure. The FAA has provided guidance for this determination in Advisory Circular (AC) 25-1529.

## **Revision to the Airworthiness Limitations Section of the Instructions for Continuing Airworthiness**

(a) Within 14 days after the effective date of this AD, revise the airworthiness limitations (AWL) section of the Instructions for Continued Airworthiness by inserting the instructions for Inspection Reference Numbers (IRN) J3220041, J3220042, and J3220043 (shear pins); as specified on page 2 of Chapter 4-11-00, Revision 32, dated June 13, 2003, of the Learjet 45 Maintenance Manual; into the AWL section. Thereafter, except as provided in paragraph (e) of this AD, no alternative replacement interval may be approved for the shear pins in the trunnion assemblies of the MLGs.

## **Shear Pin Replacement**

(b) Prior to the accumulation of 1,800 total landings on the shear pins, or within 100 landings after the effective date of this AD, whichever occurs later: Replace the shear pins, having part number (P/N) 4532103015-001V1088, 4532103015-003, 4532103025-001V1088, or 4532103026-001V1088 located in the trunnion assemblies of the MLGs with new, improved shear pins (including reidentifying the trunnion assemblies); per the Accomplishment Instructions of Bombardier Service Bulletin 45-57-6, dated June 9, 2003.

## **Parts Installation**

(c) As of the effective date of this AD, no person may install on any airplane, a shear pin having P/N 4532103015-001V1088, 4532103015-003, 4532103025-001V1088, or 4532103026-001V1088 in the trunnion assemblies of the MLGs.

## **Information Submission**

(d) Although the service bulletin referenced in this AD specifies to submit information to the airplane manufacturer, this AD does not include such a requirement.

## **Alternative Methods of Compliance**

(e) In accordance with 14 CFR 39.19, the Manager, Wichita Aircraft Certification Office (ACO), FAA, is authorized to approve alternative methods of compliance for this AD.

## **Incorporation by Reference**

(f) Unless otherwise specified by this AD, the actions shall be done per Bombardier Service Bulletin 45-57-6, dated June 9, 2003. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Learjet, Inc., One Learjet Way, Wichita, Kansas 67209-2942. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; at the FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Mid-Continent Airport, Wichita, Kansas; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

## **Effective Date**

(g) This amendment becomes effective on August 27, 2003.

Issued in Renton, Washington, on August 4, 2003.

Ali Bahrami,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 03-20238 Filed 8-11-03; 8:45 am]

BILLING CODE 4910-13-P